

REMARKS

Initially, Applicant would like to express appreciation to the Examiner for the detailed Official Action provided. Upon entry of the present amendment, claims 1, 27-28, 30-31, 34-35, 37-38, 40-41 and 43-44 will have been amended, with claims 1, 3, 5 and 27-45 pending in the present application for consideration by the Examiner.

Rejection under 35 U.S.C. 112, second paragraph

The Examiner rejects Claims 28-32, 35-39 and 41-45 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicant amended Claims 27-28, 30-31, 34-35, 37-38, 40-41 and 43-44 to overcome the indefiniteness rejection.

Rejection Under 35 U.S.C. 103(a)

The Examiner rejects Claims 1, 3, 28 and 35 under 35 U.S.C. 103(a) as being unpatentable over Iwamura of record (5,534,928) in view of Bock et al (6,370,199).

The preferred embodiment in accordance with the present invention illustrates that the parameter generator 100 is capable of generating a virtual picture parameter to the motion compensator 110. The virtual picture parameters are generated so as to control the motion compensator 110 to move data among the memory buffers. The virtual picture parameters generated by the parameter generator 100 are not obtained from decoding a real compressed picture sequence bit-stream. On the contrary, the parameter generator 100 generates all necessary parameters in a virtual picture by

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itself. The motion compensator 110 receives these virtual picture parameters from parameter generator 100 and creates "virtual" pictures which can transfer data from one memory buffer to another memory buffer. A virtual picture is similar to an ordinary P-picture except that it is created instead of being decoded from the real compressed picture sequence bit-stream. In the twelfth paragraph of Detailed Description of the Invention, it recites: "upon receiving picture P6, decode picture P6 and store the decoded picture P6 into first buffer 131. In response to the parameter 105, generate a virtual picture using P3 stored in the third buffer 133, send the virtual picture to the second buffer 132. Subsequently, decode the received B4 and B5, send the decoded B4 and B5 directly to the second buffer 132, the display controller 140 will use the pictures stored in the second buffer 132 for display. The next picture received is I9, decode I9 and store the decoded I9 in the third buffer 133, also in response to the parameter 105, generate a virtual picture using P6 stored in the third buffer 131, send the virtual picture to the second buffer 132. The following B7 and B8 will be decoded, and the decoded B7 and B8 will be sent to the second buffer 132 directly, the display controller 140 uses the pictures stored in the second buffer 132 for display thereafter.....While in Table.2, the motion compensator 110 is treated as a special DMA channel by moving data directly between different buffers to create virtual picture." The paragraph specifies that the preferred embodiment of the present invention not only decodes pictures encoded in a compressed picture sequence bit-stream in accordance with a decode order, but also generates virtual pictures which are not contained in the compressed picture sequence in order to transfer a decoded picture from one memory buffer to another memory buffer for displaying in the a display order. For example,

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I0_vp, P3_vp, P6_vp shown in Fig.4 and table 2 are virtual pictures.

Iwamura disclosed an apparatus and method for decoding a plurality of video signals and determining errors in encoded video signals to be either correctable or uncorrectable (Abstract). Iwamura did not disclose, or one cannot be taught by Iwamura, that a virtual picture, which is not contained in a compressed picture sequence, is generated in order to transfer a decoded picture from one memory buffer to another memory buffer for display. Iwamura also did not disclose, or one cannot be taught by Iwamura, that the apparatus has a parameter generator for generating a virtual picture parameters and the virtual picture parameter of each macroblock in a virtual picture includes a zero-valued motion vector and a zero-valued coded block pattern defined in the MPEG standard. Examiner referred to the *B1 and B2 of Figure 3E as the virtual picture recited in the pending claim 1. Please note that the *B1 and B2 of Figure 3E are true pictures encoded in a compressed picture sequence, but not virtual pictures as recited in Claim 1.

Bock et al disclosed a method and apparatus for processing compressed video data streams, and particularly, the insertion of a first compressed video stream into a second compressed video stream (see Abstract). To achieve this, some frames in the first compressed video stream are replaced with null frames, so that the first compressed video stream is ready for insertion into the second compressed video stream. The null frames include zero valued motion vectors and zero valued coded block patterns (See column 4, lines 1-14; and column 5, lines 37-40). Nevertheless, Bock et al did not disclose video decoding. Particularly, Bock et al did not disclose video decoding by generating a virtual picture without decoding the compressed picture

sequence. There are two additional differences between the present invention and Bock et al. The first one is that the method of Bock has to generate a bit-stream responsive to the null frames, but the present invention does not. The second one is that Bock changes the original compressed video stream by inserting null frames, but the present invention doesn't change the original compressed video stream. Thus, the method, the purpose, and result of the present invention are different from those of Bock et al.

In addition, the Examiner refers to the null frames as the virtual picture recited in claim 1. Please note that in Bock et al the null frames, the zero valued motion vectors, and the zero valued coded block patterns are in the compressed picture sequence, which is different from the feature as recited in claim 1. More particular, the present invention generates the virtual picture parameter by a parameter generator without decoding the compressed picture sequence. In contrast, the parameter of Bock et al is generated by changing the bit-stream.

Since neither Iwamura nor Bock et al disclosed the feature recited in claim 1, the Applicant believes the amended Claim 1 is patentable. And the other claims depending on claim 1 are also believed patentable for similar reasons.

CONCLUSION

It is believed that all the stated grounds of rejection have been properly traversed. The Applicant therefore respectfully requests that the Examiner reconsider and withdraw all outstanding rejections. It is believed that a full and complete response has been made to the Office Action, and as such, the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested.

Respectfully submitted,
Chi-Cheng JU



William S. Boshnick
Reg. No. 44,550

William Boshnick
Reg. No. 44,550

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GREENBLUM & BERNSTEIN, P.L.C.
1950 Roland Clarke Place
Reston, VA 20191
(703) 716-1191